

REMARKS/ARGUMENTS

This application was filed with 36 claims. Claims 1, 2, 6-16, 19, 20, 22, 24-34 have been rejected. Claims 3-5, 17, 18, 21, 23, 35, and 36 have been objected to. Claims 1, 3-5, 17, 18, and 19 have been amended in this response. None of the claims have been cancelled. Therefore, claims 1-36 are pending in the application. Reconsideration of the application based on the claims as amended and arguments submitted below is respectfully requested. Furthermore, an interview summary is discussed within the Remarks/Arguments for recordation of the substance of the interview between the examiner and Dennis H. Núñez, Registration No. 58, 837, regarding the application.

Interview Summary

On October 25, 2006, Dennis H. Núñez, Registration No. 58, 837 ("interview attorney") conducted an interview with the examiner regarding the application. Dennis H. Núñez, Registration No. 58, 837 was authorized to conduct the interview by the undersigned attorney of record.

Regarding claim 1, the interview attorney and the examiner discussed the examiner's position on signals "external" to the device. The interview attorney and the examiner agreed that an amendment including connectors connecting in a male/female relationship patentably distinguishes claim 1 from the Elion (USP 5140890) and Celi (USP 6787690) references.

Regarding claim 19, the examiner and the interview attorney agreed that Elion does not disclose both a formatting circuit and a converter circuit with the claimed features. The interview attorney stated that MIDI I/O is the only device in Elion receiving signals formatted according to a digital communication protocol. Thus, interview attorney argued that no converter circuit exists because MIDI I/O is not in communication with the microcontroller which is the only device in Elion which produces analog signals. Furthermore, if another component of Elion is selected as the formatting circuit, then there is no formatting circuit which receives formatted digital string signals. The examiner agreed subject to a closer investigation of the Elion reference.

Claim Objections

Claims 3-5, 17, 18, 21, 23, 35, and 36 have been objected to because they are dependent on rejected claims. As stated in the Office Action at 4, the claims are otherwise allowable. The applicant has rewritten claims 3-5, 17, and 18 in independent form for the purposes of obtaining an allowance of the claims. In light of the interview, the examiner has tentatively agreed that claim 19 is allowable. As a result, claims 21, 23, 35, and 36 have not been amended because of the objection. Thus, the applicant respectfully requests allowance of the claims.

Claim Rejections - 35 U.S.C. § 102

Claims 1, 2, 6-16, 19, 20, 22, 24-34 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Elion (USP 5140890). Furthermore, claims 1 and 2

are rejected under 102(e) as anticipated by Celi (USP 6787690). Applicant respectfully request withdrawal of the rejections for all the claims for the foregoing reasons.

Claim 1

The examiner has rejected claim 1 under 35 U.S.C. § 102(b) as being anticipated by Elion. Furthermore, claim 1 has been rejected under 102(e) as anticipated by Celi. First, claim 1 has been amended and is clearly distinguishable over Elion. In the applicant's June 26, 2006 response to the Office Action of April 5, 2006, the applicant distinguished Elion by pointing out that the disclosure in Elion does not disclose a structure inputting external signals. Response and Amendment at 20, June 26, 2006. The examiner has rejected this argument because, according to the examiner, the string signals are external since "the signals are external in relation to the interface." Office Action at 2. Applicant has again amended claim 1 in order to clarify the differences between Elion and Celi and the applicant's invention. Claim 1 now requires that the interface device input assembly have input connectors connecting to string signal connectors in a male/female relationship for receiving the external digital guitar signals.

Claim 1, as amended, requires the following feature which are not disclosed in Elion:

- one or more input connectors,

- each input connector being capable of connecting in a male/female relationship with a string signal connector
- wherein the input connectors receive a predetermined number of external digital string signals from the corresponding string signal connectors

Elion does not disclose these relationships. Instead, according to the examiner, item 14, is the interface device input assembly. Office Action at 2. Item 14 in Elion consists of multiplexing logic circuitry. See Fig 1; Elion, Column 2, Lines 35 – 38. Elion's device was not designed to deal with digital guitar signals produced by a digital guitar. Instead, Elion is a device for communicating conventional analog guitar signals to external music processors. Nowhere does Elion contemplate solving the "interface" problems associated with using a digital guitar with conventional guitar equipment. As a result, Elion has no need for male/female input connectors for receiving digital guitar string signals from an external system. Consequently, Elion cannot meet the requirements of amended claim 1.

Second, Celi does not meet the claim limitations of amended claim 1. Claim 1, as amended, requires the following features which are not disclosed in Celi:

- one or more input connectors,
- each input connector being capable of connecting in a male/female relationship with a string signal connector
- wherein the input connectors receive a predetermined number of external digital string signals from the corresponding string signal connectors

- an interface device processing circuit adapted to generate a predetermined number of analog string signals based on the external digital string signals

In the Office Action, the examiner cites the digital signal processor, item 120 of Celi, as both the interface device input assembly and the processing circuit. See Office Action at 3. To begin, Celi is missing the required male/female connectors which receive the digital string signals of amended claim 1. Celi discloses a system which receives string signals directly from the bridge of the guitar. See Fig 2. Celi, Column 5, Lines 14-18. These string signals are input into a group of analog to digital converters which then input the signals into the digital signal processor, item 120. See Figure 2; Celi, Column 5, Lines 14-30. As a result, Celi does not disclose the required connectors because Celi does not contemplate the problems solved by the applicant's invention. Celi is not an "interface" between a digital guitar and conventional guitar equipment. Instead, the processor, item 120, of Celi was designed for processing signals internal to the guitar. Celi, Column 2, Lines 54-56. Accordingly, Celi does disclose the first three items listed above.

Furthermore, Celi does not disclose a processing circuit adapted to convert the digital string signals into analog string signals. According to the examiner, the digital signal processor of Celi, item 120 is the processing circuit, while the digital to analog converter, item 215, is the output assembly. Office Action at 3. However, if this is the position taken by the examiner, then Celi cannot meet the required claim limitations. Claim 1 requires that the processing circuit convert the digital string signals into analog signals. However, in Celi, the digital to analog converter,

item 215 (the examiner's output assembly), converts the digital signals into analog signals. See Fig. 2; Celi, Column 7, Lines 13-16. Thus, the processing circuit identified by the examiner in Celi does not convert digital signals into analog signals. Applicant respectfully requests an allowance of claim 1.

Claim 19

Claim 19 has been amended to correct a minor clerical error. Originally, the claim required "an interface device converter circuit in communication with the *interface device receiving circuit*." However, the "receiving circuit" lacks an antecedent basis and is a typographical error in the claim. Applicant has amended "receiving circuit" to "formatting circuit" thereby eliminating the error.

Next, Elion does not disclose the required claim limitations of claim 19. Regarding claim 19, the examiner states the claim limitations are met because "Elion discloses that the guitar control system is adapted to receive and output various digital (e.g. HEPITCH-LEPITCH and MIDI) and analog 24 signals. See Fig. 1, Claim 1." Office Action at 3. Elion however is missing at least the following claim features for claim 19:

- an interface device formatting circuit adapted to receive a predetermined number of digital string signals formatted to be compatible with a predetermined number of digital communication protocols and/or
- an interface device converter circuit in communication with the interface device formatting circuit, the interface device converter circuit adapted to

generate and output a predetermined number of analog string signals based on the digital string signals

First, if the examiner takes the position that the MIDI I/O, item 22 of Elion, is the formatting circuit of claim 19 then the system is missing a converter circuit with the required claim limitations. According to the claim, a converter circuit must receive the digital protocol signals and convert them into analog signals. However, in Elion, the only system which outputs analog signals is the microcontroller, item 16. See Elion, Column 1, Lines 48-55 (microprocessor provides a signal to analog i/o which then provides analog signal audio processing circuitry). However, the microcontroller, item 16, does not input signals from the MIDI I/O. See Elion, Column 1, Lines 48-50; Elion, Column 2, Lines 40-45. Consequently, if the MIDI I/O is the formatting circuit, no component of Elion, including the microcontroller, qualifies as a converter circuit receiving digital protocol signals and converting them into analog signals. This is because no component in Elion communicates digital protocol signals to a device which subsequently converts them into analog signals.

Second, if the examiner takes the position that the microcontroller, item 16 is the formatting circuit then Elion does not have a formatting circuit meeting the required claim limitations. The microcontroller, item 16 in Elion, does not receive a signal formatted according to a digital communication protocol. The examiner states that “microcontroller/interface 14 are all digital signals.” Office Action at 3. Furthermore, “according to the abstract, MIDI data is input to the data bus.” Id.

However, the data bus referred to by the examiner is item 18 of Elion which outputs data from the microcontroller. Elion, Column 2, Lines 39-45. Instead, the microcontroller receives HE/D Pitch – Select and HEPEAK-LEPEAK. See Figure 2. Nothing in Elion suggest that these signals are formatted according to a digital communication protocol.

Finally, if the examiner takes the position that the input multiplexing logic, item 14 of Elion, is the formatting circuit, then Elion is missing a formatting circuit with the required limitations. Again, claim 19 requires that the formatting circuit receive digital protocol signals. In Elion, input multiplexing logic receives HEPITCH – LEPITCH which are not formatted according to a digital communication protocol. Therefore, Elion is missing the required claim limitations of claim 19. Applicant respectfully requests allowance of claim 19.

Dependent Claims

Applicant believes that many of the claimed features of the dependent claims are not present in Elion. For example, the examiner has not shown the required relationship between the digital communication protocol signals and the claimed components. The applicant reserves argument on the remaining claims in case further prosecution of the application is necessary.

Allowable Subject Matter

Applicant has commented on some of the distinctions between the cited references and the claims to facilitate a better understanding of the present invention. This discussion is not exhaustive of the facets of the invention, and

Applicant hereby reserves the right to present additional distinctions as appropriate. Furthermore, while these remarks may employ shortened, more specific, or variant descriptions of some of the claim language, Applicant respectfully notes that these remarks are not to be used to create implied limitations in the claims and only the actual wording of the claims should be considered against these references.

The Commissioner is authorized to charge any deficiency or credit any overpayment associated with the filing of this Response to Deposit Account 23-0035.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Lucian Beavers', written over a horizontal line.

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10/25/06

Date